PATENT COOPERATION TREATY

rom the VTERNATIONAL SEARCHING AUTHORITY			REC'D 17 MAY	2035
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J. PETER FASSE	1			
FISH & RICHARDSON, P.C. 225 FRANKLIN STREET BOSTON, MA 02110-2804	WRI INTERNATIO	TTEN OPINION NAL SEARCHIN	OF THE NG AUTHORITY	
		(PCT Rule 43bis.		٦
	Date of mailing (day/month/year) FOR FURTHER	12 MAY	2005	-
Applicant's or agent's file reference	FOR FURTHER	See paragraph 2 belov		
00786-607WO1 International application No. International filing dat	e (day/month/year)	Priority date (day/m	onth/year)	
International appro-		30 January 2004 (30	.01.2004)	_
PCT/US05/03158 31 January 2005 (31.0 International Patent Classification (IPC) or both national classification	cation and IPC			1
International Patent Classification (2 5) of The and IS Cl	- 525/162, 187, 327, 3	, 540		4
IPC(7): C08F 120/32, 283/10; C08L 71/02, 79/02 and US Cl.: Applicant	, 323/102, 10., 00.			1
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THE GENERAL HOSPITAL CORPORATION				
1. This opinion contains indications relating to the following i	tems:	•		
Box No. I Basis of the opinion				
Box No. II Priority			. t-1lieghility	1
Box No. III Non-establishment of opinion with	n regard to novelty, in	ventive step and indus	mai applicating	
Box No. IV Lack of unity of invention			imdustrial	١
Box No. V Reasoned statement under Rule 4: applicability; citations and explan	3bis.1(a)(i) with regard ations supporting such	to novelty, inventive statement	step of monadian	
Box No. VI Certain documents cited		•		
Box No. VII Certain defects in the international				
Box No. VIII Certain observations on the intern	national application			
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2. FURTHER ACTION If a demand for international preliminary examination is International Preliminary Examining Authority (*IPEA Authority other than this one to be the IPEA and the cho that written opinions of this International Searching Authority	sen IPRA has notified	the International Bur	the applicant chooses a eau under Rule 66.1 <i>bis(t</i>	n >>
If this opinion is, as provided above, considered to be a IPEA a written reply together, where appropriate, wit mailing of Form PCT/ISA/220 or before the expiration of	written opinion of the	PEA, the applicant	is invited to submit to the months from the date of the expires later.	ne of
For further options, see Form PCT/ISA/220.				Ì
3. For further details, see notes to Form PCT/ISA/220.				
Name and mailing address of the ISA/ US	Authorized of	ficer	. 1 .	1
Mail Stop PCT, Atm: ISA/US Commissioner for Patents	James Seidle	xk	Party Paralogal See	
P.O. Box 1450 Alexandria, Virginia 22313-1450 Telephone No. 703-308-0661				
Facsimile No. (703) 305-3230				

Form PCT/ISA/237 (cover sheet) (January 2004)

International application No.
PCT/US05/03158

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item. This opinion has been established on the basis of a translation from the original language into the following language which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)). 2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of: a. type of material a sequence listing table(s) related to the sequence listing b. format of material in computer readable form c. time of filing/furnishing contained in international application as filed. filed together with the international application in computer readable form. furnished subsequently to this Authority for the purposes of search. In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished. 4. Additional comments:	Box No. I Basis of this opinion
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	4. Additional comments:

International application No. PCT/US05/03158

Box No. V Reasoned statement under Rule 43 bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

ment		
Novelty (N)	Claims 4-9, 12, 14-36	YES
	Claims 1-3, 10-11, 13	NO
Inventive step (IS)	Claims 4-9, 12, 14-36	YES
myonave stop (25)	Claims 1-3, 10-11, 13	NO
Industrial applicability (IA)	Claims 1-36	YES
munautat approachity (127)	Claims NONE	NO

2. Citations and explanations:

Claims 1-3, 10-11, 13 lack novelty under PCT Article 33(2) as being anticipated by RANGER et al U.S. Patent 6,780,428.

RANGER discloses star-shape polymers having an inner core and an outer shell. The inner core comprises a hydrophobic vinyl compound such as (alkyl)acrylate and (alkyl)acrylamide and derivatives. The outer shell is obtained from the polymerization of hydrophilic vinyl compounds including a vinyl terminated polyethylene glycol, N-vinyl-2-pyrrolidone, N-isopropyl acrylamide and their related derivatives, column 5, lines 19-39. Claimed hyperbranched polymer having core/shell structure and having an active hydrogen-containing group on the outer shell segment is readable in RANGER's invention.

Claims 1-3 and 13 lack novelty under PCT Article 33(2) as being anticipated by KABANOV et al U.S. Patent 6,440,743.

KABANOV discloses star block copolymer having more than two polymer segments linked to a single center, col. 3, lines 45-60 and col. 4, lines 1-5. The star polymer can be used in Gene therapy, col. 10, lines 58-60 and col. 11, lines 34-67. The diamine-linked pluronic copolymer of formula (XVII), column 13, lines 40-55 and col. 14, lines 21-30 is readable in applicants' claims.

Claims 1-3 lack novelty under PCT Article 33(2) as being anticipated by YOUNGS et al U.S. Patent 6,288,197.

YOUNGS discloses dendrimer copolymer comprising a core segment and the dendritic branches with terminal NH2 groups, Figure 1, col. 4, lines 24-67, col. 5, line 33 and column 15, lines 42-54.

Claims 4-9, 12, 14-36 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest a hyperbranched polymer having core-shell structure wherein an inner core comprises a network of covalently bound molecular chains comprising ether linkage, the two heteroatoms are each oxygen atoms, the two oxygen atoms are spaced apart by at least four atoms.

Claims 1-36 meet the criteria set out in PCT Article 33(4), and thus has industrial applicability because the subject matter claimed can be made or used in industry.

Form PCT/ISA/237 (Box No. V) (January 2004)

PATENT COOPERATION TREATY

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FRANKLIN STREET STON, MA 02110-2804	INTERNATION	WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY		
		(PCT Rule 43bis	.1)	
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1. This opinion contains indications relating to the following	g nems.			
Box No. I Basis of the opinion				
Box No. II Priority			lel emplioshility	1
Box No. III Non-establishment of opinion w	vith regard to novelty, in	ventive step and indus	trial applications	
Box No. IV Lack of unity of invention	Lack of unity of invention Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial			
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2. FURTHER ACTION			se a written opinion of	the
2. FURTHER ACTION If a demand for international preliminary examination International Preliminary Examining Authority (*IPE Authority other than this one to be the IPEA and the c that written opinions of this International Searching Au	chosen IPEA has notified thority will not be so co	d the International Bui nsidered.	reau under Rule 66.1 <i>DI</i>	3(0)
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For further options, see Form PCT/ISA/220.				
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Name and mailing address of the ISA/ US	Authorized o	tticer	1	1
Mail Stop PCT, Attn: ISA/US	James Seidl	eck	Jean Proctor	1
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P.O. Box 1450 Alexandria, Virginia 22313-1450	Telephone No. 703-308-0661			

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International application No. PCT/US05/03158

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1. Statement Novelty (N) Claims 4-9, 12, 14-36 YES Claims 1-3, 10-11, 13 YES NO Inventive step (IS) Claims 4-9, 12, 14-36 YES Claims 1-3, 10-11, 13 YES NO

Industrial applicability (IA)

 Claims
 1-36
 YES

 Claims
 NONE
 NO

2. Citations and explanations:

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